MATTERS ARISING

Small spectrum of prevalent gonococcal auxotype/serovar classes in Africa

The article of C A Ison and colleagues[1] has prompted us to report on the epidemiological analysis of *Neisseria gonorrhoeae* strains isolated in Kenya which also showed a high level of antibiotics resistance and belonged to a restricted number of serovars.

N gonorrhoeae were isolated from the urethra of 100 male STD patients in Kenya in April 1984. Sixty two percent of the strains were penicillinase producing *N gonorrhoeae* (PPNG) and an additional 10% showed chromosomaly mediated resistance (CMRNG) compared with 49% (81/165) PPNG and 27% (44/165) CMRNG found in the Gambia by Ison *et al.*[1] We also found resistance to tetracycline ($\geq 1 \mu g/ml$) to be high (78%) and 32% had a minimal inhibitory concentration (MIC) of ≥ 4 $\mu g/ml$. 58% of gonococcal strains were resistant to both penicillin and tetracycline. We also did not encounter any high level plasmid-mediated tetracycline resistance (MIC ≥ 16 $\mu g/ml$).

N gonorrhoeae strains from Kenya also belonged to a small number of auxotype/serovar (A/S) classes (25). However, in our study 3 A/S classes predominated (NR/IA-4, Pro/IB-1, NR/IA-6) accounting for 60% of all strains unlike in The Gambia where 52% (86/165) belonged to Proto/IB-7. The A/S classes NR/IA-4 and Pro/IB-1, comprising 24% and 23% respectively, dominated our gonococcal population. Other A/S classes were represented by only 6 or less isolates (Figure). PPNG strains belonged more often to A/S class NR/IA-4 than to other A/S classes ($p \leq 0{\cdot}05$).

The high prevalence of penicillin resistance found in this study is one of the highest rates registered in an African country.[2-4] Serogroup PIA and serovar IA-4 has been associated with penicillinase production also in other African countries.[5-7] Only three A/S classes dominated the gonococcal population in Nairobi with one A/S class associated with penicillinase production. Even in longitudinal studies only 4 dominating A/S classes were detected in Nairobi.[3 7 8] In the same year 27 different A/S classes were identified from 56 strains isolated at the Department of Dermatology in Heidelberg, Germany with no A/S class dominating the population. NR/IA-4 isolates accounted for only 0·8% (3/360) and Pro/IB-1 isolates for 4·4% (16/360) of the total population in Heidelberg between 1981–89.[9]

Our data support the findings of Ison and colleagues about relatively homogeneous gonococcal populations with a low number of A/S classes in Africa. Within this gonococcal populations a cluster of antibiotic resistant strains predominates. The difference of gonococcal populations between Europe and Africa may to be the result of different selective pressures on serovar prevalence.

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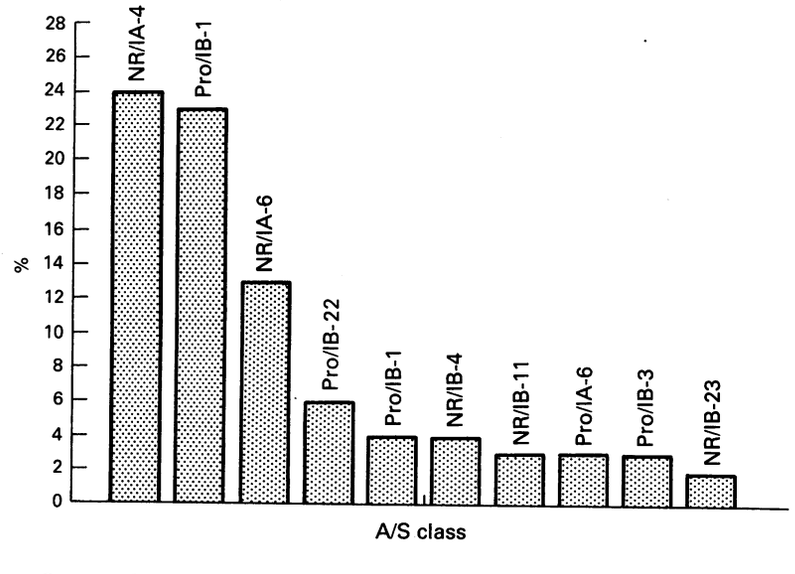

Figure Gonococcal population dominated by three auxotype/serovar classes.

BOOK REVIEWS

Gastrointestinal & Nutritional Manifestations of the Acquired Immunodeficiency Syndrome. Edited by Donald Kotler. New York, Raven Press. (US $118, pp 310) 1993. ISBN 0-88167-780-9.

This concise volume is clearly written and provides a remarkably comprehensive account of its chosen subject. The contributions come from Dr Kotler's own service at St Luke's-Roosevelt Hospital Center in New York, other units in the USA and Canada, and from the Claude Bernard Hospital in Paris, France.

An initial chapter summaries the basic biology of HIV infection and subsequent chapters give overviews of the gut-associated immune system and the link between nutrition and immunity. There then follows a major section on the various clinical manifestations of AIDS. These provide a sound discussion of intestinal and hepatobiliary infections and tumours with an essentially clinical approach but including some useful and relevant theoretical background. Separate chapters are devoted to pathology and radiology which admirably succeed in showing how important an integrated multidisciplinary approach is in managing AIDS patients.

Perhaps the most significant part of the book is the section on wasting disease—an area where the editor has made a notable contribution. Parallels are drawn of the metabolic effects of cancer, starvation, malnutrition and AIDS. Death occurs in all these conditions when subjects reach approximately 60% of ideal body weight. Thus if the mechanisms underlying wasting in AIDS patients could be determined, and overcome, there could be a worthwhile increase in their survival. In this respect there is an extensive discussion of the role of cytokines, and in particular tumour necrosis factor (TNF, cachetin), which may prove to be important in HIV progression. Studies are discordant and there is as yet no consensus as to the importance of TNF, but results of recently proposed studies of immunomodulatory therapy are eagerly awaited.

What is the role of feeding in HIV disease? Unfortunately, alimentation or hyperalimentation does not always work and may at times even be dangerous. Dr Kotler and colleagues describe nutritional status assessment and the role and appropriate use in AIDS of enteral and parenteral nutritional support. Dietary advice and psychological aspects are also covered and there is a final chapter on infection control.

I have only a few criticisms. In the first